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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/854,828	05/14/2001	Stephen S. Agnew	723-010030-US (101)	9153

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PERMAN & GREEN
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FAIRFIELD, CT 06824

EXAMINER	
NGUYEN, CHANH DUY	

ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 12/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/854,828	AGNEW, STEPHEN S.	
	Examiner	Art Unit	
	Chanh Nguyen	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-10 and 13-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-10 and 13-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s)_____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed on February 28, 2005 has been entered and considered by examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5 and 6-10, 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al (U.S. Patent No. 6,351,260) in view of Hasegawa (U.S. Patent No. 4,737,626) and further in view of Doering et al (U.S. Patent No. 4,893,120).

As to claim 1, Graham discloses a combined touch panel and light for use with a display having a substantially planar surface (see column 4, line 64 through column 5, line 19) including a source of illumination (102), a light guide (e.g., waveguide sections 104, 110) for receiving light from the source of illumination and for propagating in a direction substantially parallel to a display surface of the display (see Figures 1-4 and see column 6, lines 3-68). Graham teaches at least one sensor (e.g., light receiver 112) for detecting an interruption in propagation of light in a direction substantially parallel to the display surface (see column 4, lines 25-37). Graham does not mention "combining means for calculating the position of interruption of light from the intensity of light

determined by the sensor". However, Graham teaches that "the receivers 406 and 408 also couple to or include circuitry that converts photosensitive measurements from photosensitive measurements from photosensitive areas to a digital quantity, and then transmits the digital quantity to the host computer" (see column 7, lines 33-53 and column 11, lines 40-63). Thus, it would have been obvious to one of ordinary skill in the art that the host computer of Graham can perform a function as a combining means for calculating the position of interruption of light from the intensity of light determined by the sensor because if the computer of Graham does not perform the calculation of digital quantity (i.e. calculating the x, y coordinates), then the position of the touch cannot be detected or inputted on the screen.

Moreover, in the same field of endeavor, examiner cites the reference of Hasegawa teaches a well-known feature "calculating" as recited in the claim. For example, Hasegawa teaches that "when a wide object (finger) also blocks the infrared beams 6 of a plurality of rows and columns adjacent to the center position, the intended center point can be obtained by averaging data" (see column 1, lines 44-48). Thus,the calculating function must be performed in Hasegawa because Hasegawa teaches an averaging data. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used a combining means for calculating the position of interruption of light from the intensity of light determined by the sensor as taught by Hasegawa to the user input device of Graham so that the touch can be detected or measured accurately.

Both Graham and Hasegawa teaches the use of multiple source illumination whereas the claim requires only a single source of illumination. Doering teaches that *"several light receiving elements could be paired with a single light emitting element, or vice versa"* (see column 8, lines 8-10). It would have been obvious to one of ordinary skill in the art at the invention was made to have substituted a single light emitting element as taught by Doering tot eh light source of Graham as modified by Hasegawa since a single light source can be performed as same as a plural light sources, especially with its advantage in the nonrectangular displays (see column 5, lines 7-10 of Doering)

As to claim 2, Graham clearly teaches a light guide including lenses (116); see column 4,lines 38-49.

As to claim 3, Graham teaches the light guide distributing the illumination so that at least a portion of the illumination travels in two perpendicular directions (i.e. horizontal light beam 418 perpendicular to vertical light beam 420 as shown in figure 4).

As to claim 4, Graham teaches the light guide (wave guide section) distributing the light in a plurality of different paths (light beam), and sensor (light receiver) being positioned to receiving information from at least one of the path; see Figures 1 and 4.

As to claim 5, Graham clearly teaches the paths (light beam) being substantially parallel; see light beam 106 of Figure 1 or light beam 418 of Figure 4.

As to claim 7, Graham teaches the illumination radiating in substantially linear manner adjacent at least one edge of the display (i.e. light source is LED as shown in Figure 4; see column 7, lines 15-19).

As to claims 8-10, an analog sensors and a threshold sensors disposed along at least one edge of the display surface is taught by Graham as shown Figure 4 and column 7, lines 33-54.

As to clam 13, Graham teaches a light emitting diode light source (see column 7,lines 14-27).

As to claim 17, Graham clearly teaches the apparatus being sized, shaped and positioned to illuminate the display panel; see column 5, lines 1-45.

4. Claims 14 and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of Hasegawa and Doering as applied to claim 1 above, and further in view of Kubo et al (U.S. Patent No. 6,456,279).

As to claim 14, note the discussion of Graham, Hasegawa and Doering above, Graham, Hasegawa and Doering do not mention light guide including a substantially planar member extending over the display surface. Kubo teaches a light guide (2) including a planar member extending over the display surface (see Figure 1 and column 8,lines 1-25. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have substituted the guide light as taught by Kubo to the light guide of Graham as modified by Hasegawa and Doering so that a high quality image displayed can be obtained and the brightness of the screen can be improved (see column 3, lines 42-49 of Kubo).

As to claim 18, Kubo clearly teaches liquid crystal display panel (1).

As to claims 19-20, Kubo teaches both front light and back light liquid crystal display panel. For example, Figure 10 shows well-known backlight light liquid crystal display panel as well as front light liquid crystal display panel as shown in Figure 1.

As to claims 21-26, the limitations a portable electronic device, a personal digital assistant, a mobile telephone recited in claims 21-26 are taught by Kubo; see column 8, lines 51-56 and column 28, lines 16-17.

5. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham in view of Hasegawa and Doering as applied to claim1 above, and further in view of Selbrede (U.S. Patent No. 5,319,491).

As to claim 15, note the discussion of Graham, Hasegawa and Doerign above, Graham, Hasegawa and Doering do not mention a resilient, deformable light guide. Selbrede teaches the use of a well-known deformable elastomer layer light guidance (148) to the optical display panel; see column 10, lines 46-55. Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the deformable elastomer layer light guidance to the guide light of Graham as modified by Hasegawa and Doering so as to prevent unwanted distortions of the light beam (see column 10, lines 46-55 of Selbrede).

As to claim 16, Graham teaches a touch input device (300) which has characteristic deformable placed over the display screen (208) which has light guide. Even the reference of Kubo teaches a well-known feature deformable layer disposed over the light guide as recited in the claim.

Response to Arguments

6. Applicant's arguments with respect to claims 1-5, 7-10, 13-26 have been considered but are moot in view of the new ground(s) of rejection.

In view of amendment, the reference of Doering has been added for new ground of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (571) 272-7772. The examiner can normally be reached on Monday- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chanh Nguyen
Primary Examiner
Art Unit 2675

CN

C. Nguyen
November 27, 2005